

A photograph of a person with long hair, wearing a blue t-shirt, leaning over a garden bed filled with green leafy plants. The person's hands are visible, touching the plants. The background is slightly blurred, showing more of the garden and some soil.

# THE IMPACT OF A COMMUNITY GARDEN ON THE RESIDENTS OF WHARTON, TX

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## Executive Summary

Hesed House of Wharton sprang from a First United Methodist Church program funded by the Rebuild Texas Fund and Texas Methodist Foundation in 2018. The year-long pilot program focused on offering non-traditional methods for improving health through community outreach in areas such as art, gardening, and yoga. The program transitioned to a 501(c)(3) in 2019 with a generous grant from the Matagorda Episcopal Health Outreach Program (MEHOP). Hesed House's mission is to improve the environment and social conditions that contribute to poor health and offer services to promote the health and well-being of Wharton residents. The organization's primary attention focused on the underserved, defined as residents living in poverty, single parents, children, elderly, food insecure residents, as well as those with chronic health issues such as cancer, obesity, diabetes, and high blood pressure.

In collaboration with local Eagle Scouts, Hesed House staff and volunteers built a community garden to help address food security and health and wellness for Wharton residents. After the first year of garden production, Hesed House staff believed the community garden impacted the local residents more than other Hesed House programming but lacked the data to support their belief. In addition, Hesed House wanted to expand the community garden program but hesitated to move forward without a strategic plan to sustain additional gardens. Hesed House lacked data to inform an assessment of the garden program's impact on the community.

Our project focused on documenting the impact of the Hesed House community garden on Wharton residents. Our specific project question was: **What was the impact of the Hesed House community garden?** We further investigated the impact of the community garden on food security and sustainability, community relationships, intra- and interpersonal growth, and health and wellness.

We approached the project with mixed methods including document reviews, interviews, site visits, and web scraping. Our interviews included staff, volunteers, donors, and patrons of the Hesed House community garden. We coded the collected data to identify key themes and common trends that led us to reliable findings.

We found that the Hesed House community garden impacted food security and sustainability because the staff distributed produce from the community garden as it ripened and taught participants how to build and maintain a garden. The garden impacted community relationships because Hesed House staff offered garden-focused activities that provided opportunities for people to interact with and learn from one another. We also found that by offering opportunities to connect with others, strengthen community bonds, and transform personally, the Hesed House garden and staff impacted intra- and interpersonal relationships. Finally, we documented multiple personal accounts of mental, physical, and spiritual health improvements experienced by volunteers and patrons working in the garden.

We believe the following recommendations, if acted upon, should enhance the Hesed House community garden impact on food security and sustainability, community relationships, intra- and interpersonal growth, and patron health and wellness:

- Teach the fundamentals of gardening through classes and mentorships
- Add more community gardens in city-owned vacant spaces
- Develop a sustainable plan for distributing produce from the garden
- Work with local organizations to maintain additional gardens in Wharton
- Encourage participation in garden-inspired events through social media
- Partner with a medical professional/organization to track health and wellness indicators of community garden patrons

- Track the number of attendees at garden-focused classes and events to identify the most impactful garden programming

Overall, we found that the Hesed House community garden positively impacted the community with respect to resident health and connectivity. Implementing the recommendations offered should further enhance the impact and reach of the organization.

## Introduction

Hesed House is a 501(c)(3) nonprofit organization located in the rural city of Wharton, Texas funded by grants and private donations and formally established as a nonprofit in July of 2020. Hesed House of Wharton originated as a year-long First United Methodist Church program funded by the Rebuild Texas Fund and Texas Methodist Foundation in 2018. The church entered into a contract with the city of Wharton to utilize a vacant city-owned structure as the Hesed House headquarters building for \$1 per year. A Gulf Coast Medical Foundation grant provided financial support to renovate the structure which opened to the public in January 2019. A \$250,000 grant from the Matagorda Episcopal Health Outreach Program (MEHOP) paid salaries for four employees and programming expenses. MEHOP agreed to test the impact of non-traditional methods for improving health in communities such as art, gardening, and yoga. The original vision for the grant focused on serving 1,000 community members through Hesed House mental health counseling and programming such as art, yoga, gardening, and poetry classes. The programming methodology leveraged the CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) study, which tied ACEs to the development of risk factors for disease and improving well-being throughout a person's lifetime (Hesed House, 2021).

Our interest in Hesed House sparked when Jim McAlary approached his brother-in-law, Richard, who is on many nonprofit boards in the Houston, Texas area. Richard linked us with Matthew, the director of a nonprofit organization whose decisions were managed by committee. Matthew expressed an interest in using our team for some research projects, but all board members needed to vote on this approach. Our first interaction with this board was a negative experience and after a debrief with Matthew, he suggested we meet with Stephanie Konvicka, executive director of Hesed House. During our first meeting with Stephanie, we became excited



to work with the organization as she understood our capabilities and limitations. This partnership resulted in the team's growth outside our comfort zone beyond our traditional fields of study or professional backgrounds. Other than volunteering, none of us previously worked so closely with a nonprofit organization. We also developed lasting friendships over long distances and during a worldwide pandemic.

The population of Wharton, Texas was around 9,000 people, many of whom were low-income and underserved. Approximately 14% of the population lived below the poverty line (Data USA, 2022). Hessed House defined underserved individuals as residents living in poverty, single parents, children, elderly, food insecure residents, and those with chronic health issues such as cancer, obesity, diabetes, and high blood pressure (Stephanie Konvicka, personal communication, June 23, 2021). The Texas Tribune estimated that 41% of the Wharton independent school district children were at risk of dropping out without graduating from high school (Texas Tribune, 2019). The community experienced significant flooding events in 2015, 2016, and 2017 followed by a global health pandemic in 2020 and 2021 and a historic freeze event in February 2021. Because Wharton was a small rural community within two hours' driving distance of two major Texas cities, it did not receive much attention or funding from state or federal emergency management when disasters<sup>1</sup> occurred in multi-county areas. Nearly 30% of Wharton residents lived in the 100-year flood plain, compared with the national average of 12% (Houston-Galveston Area Council, 2018). These low-income residents often lived in homes passed down through generations and could not afford to or chose not to relocate for other reasons (Sweeney Films, 2018). These situations, married with multiple floods, the global

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<sup>1</sup> The Federal Emergency Management Agency (FEMA) defines a disaster as an occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries. (FEMA, n.d.)

pandemic, and 2021 freeze created notable challenges for Wharton residents regarding food security and wellness. Repeated community disasters resulted in an increased demand for Hesed House services among community members.

Hesed House built a 40-foot by 40-foot community garden in 2020 as part of their Wharton Grows program. The intent of the garden was to provide fresh produce, flowers, and a gathering space for the residents of Wharton in an attempt to improve community well-being. The purpose of this capstone project was to better understand the impact of the Hesed House community garden on the residents of Wharton and identify how best to expand and sustain the community garden project to further improve community wellness.

### **Organizational Context**

Hesed House's mission is to improve the environment and social conditions that contribute to poor health and offer services to promote the health and well-being of Wharton residents, with special attention to the underserved. Hesed House offered community outreach in the form of community projects and wellness services such as art, gardening, poetry, and yoga classes, and mental health counseling. Hesed House was expanding its operation to four additional buildings around Dinosaur Park in downtown Wharton through a generous private donation and subsequent fundraising. The organization rented their current headquarters building and land parcel from the city of Wharton for \$1 per year. The city supported Hesed House's expansion to additional buildings around Dinosaur Park to provide office space, private rooms for counseling, and common areas for residents to learn and socialize. Specific to the organization's focus on wellness, Hesed House created and managed a community garden as part of the Wharton Grows program to provide free produce and a garden respite to underserved residents. In 2019 and 2020, Wharton Grows facilitators worked with five local families,

selected through an application process, to build home gardens. The garden program offered a non-traditional method for improving health in the Wharton community.

The Hesed House staff included full-time employees Stephanie Konvicka, Executive Director, and Amelia Cleveland, Community Support Worker, part-time accountant Danielle Smith, and four part-time interns. Hesed House reported to a Board of Directors consisting of Amy Dutcher, President, Debbie Cenko, Treasurer, Hailey Roberson, Secretary, and Lauren Lathon and Jordan Baylor, board members. Stephanie and Amelia worked closely with some city of Wharton employees as well as multiple local programs and financial partners to provide space and programming content to support the underserved members of the community. The city was an official partner and provided real estate wherein Hesed House operated. According to a city official, the city offered additional land to Hesed House for program expansion in the future (Krystal, personal communication, February 10, 2022). Hesed House program partners such as Iconoclast, the Wharton Garden Club, and the Wharton Historical Society provided volunteer teachers to guide students in writing poetry, creating artwork, gardening, and learning about Wharton history.

Stephanie believed that the community garden outside the doors of the Hesed House headquarters building was one of the most impactful Hesed House projects in the community because it touched many residents in different ways. In the spring of 2020, the Hesed House garden produced over 500 pounds of produce for distribution to underserved residents. Stephanie told a story of a second grader who asked if she could plant her lima bean from school in the community garden when it outgrew its plastic cup. The child often visited her bean, “Limey,” in the community garden. The garden also became a place of solace and respite for residents as Stephanie observed after a resident’s funeral. A few funeral attendees walked to

Dinosaur Park after the service and wandered through the garden demonstrating that the garden offers much more than food to underserved populations. Additionally, Stephanie saw that the garden facilitated community-building in that people met and conversation happened easily in the garden's non-obtrusive setting. In this manner, the garden encouraged community-building and camaraderie.

### **Area of Inquiry**

In 2021, the Hesed House staff lacked concrete evidence to confirm the impact of the community garden. Hesed House wanted to expand the community garden program but did not have a strategic plan to do so in a sustainable way. The problem Hesed House faced was the lack of data to inform an assessment of the garden program's impact on the community and the limited access to empirical literature describing sustainability strategies for and impacts of community gardens. The primary goal of our study, then, was to investigate the impact of the Hesed House community garden and to identify how Hesed House might leverage and expand the community garden to further improve community well-being and ensure the garden's sustainability. The key stakeholders for this project were the Hesed House staff and the city of Wharton. The Hesed House staff had a stake in seeing the garden improve Wharton residents' well-being which could increase community donations to support and expand the Wharton Grows program. The city manager and his staff had a stake in the success of the garden to prove that the city of Wharton's donation of land to Hesed House benefited the community. Growing and maintaining the community garden in Wharton was important to address because, in addition to improving social conditions in the city, it could also provide a blueprint for program expansion to further improve community access to wellness programming and fresh fruits and vegetables. Sustainment and expansion of the garden could improve public health in Wharton.

Health problems among the food insecure and poverty-stricken residents was somewhat addressed by improved access to fresh produce and wellness activities. Addressing this problem could also improve community mental health by providing Wharton residents access to non-traditional wellness programming. As community gardens flourished, neighbors working together experienced opportunities to become self-sufficient in combating issues of hunger.

### **Literature Review**

The goal of the literature review was to examine the impact community gardens may have on community residents. We focused on studies analyzing the impact of community gardens on food security and sustainability, community relationships, inter- and intrapersonal skills, and health and wellness. We selected these four categories based on the community garden goals Hessed House leadership shared during our initial interviews. Consequently, these categories later became essential to our conceptual framework and guided our project. The literature we explored primarily focused on community gardens in western cultures. The majority of these gardens were in urban locations and served vulnerable or minoritized populations.

#### **Food Security and Sustainability**

Much of the literature on community gardens that we found addressed the relationships between gardens and food security and sustainability. In 2019, 34.9% of households with incomes below the federal poverty line were food insecure, and rates of food insecurity were substantially higher than the national average for Black, Hispanic, and single-parent households, especially in rural areas and large cities (USDA Economic Research Service, 2019). A study by Paul, Paul, and Anderson (2019) clearly demonstrated what other research in this area has found, that by taking responsibility for food growth locally, communities can generate availability,

access, utilization, and stability of food sources. Phillips (2003) further illustrated how food security affected community health revealing that access to fresh produce, culturally relevant foods, and skills needed to sustain healthy food programs were vital to sustaining the well-being of a community. Block, Chavez, and Allen (2003) documented that many low-income or minoritized neighborhoods had little access to larger grocery chains creating a disparity in access to healthy, low-cost food items. Block et al. (2003) also highlighted that many organizations across the United States initiated programs such as community gardens, urban agriculture, or farmers' markets to address these food disparities, but often a lack of control over resources or land use in the community presented a barrier to implementation of the programs. Accordingly, self-supporting communities may be characterized by communal ownership in food production and distribution. Weiler, Hergesheimer, Brisbois, Wittman, Yassi, and Spiegel (2015) demonstrated that food security addresses sovereignty issues by creating opportunities for equity in the sustainability of neighborhood food programs or gardens.

According to Morgan (2015), community gardens addressed food security by offering alternatives to food deprivation and should be included in urban planning efforts. Alaimo, Beavers, Crawford, Snyder, and Litt (2016) studied the emotional, social, and health impacts from community garden participation. They highlighted that community gardeners reported a lower number of days worried about running out of food than before participating in the garden. Similarly, Hanna and Oh (2000) advocated that greenspaces allow residents to access resources and address issues of sustainability.

Cultivating sustainability of food resources can be enhanced with community garden mentorship programs. Rogers, Livstrom, Roiger, and Smith (2020) demonstrated this concept through a garden mentorship study between undergraduate students from the University of

Minnesota and youth in urban Minneapolis. The result of the mentorship served as a model for experimental garden learning and sustainability (Rogers et al., 2020). In a study by Kowalski and Barrett (2018), a northeast Ohio community garden employed the mentorship of master gardeners to augment the knowledge of novice volunteers. The volunteers reported that they felt increased confidence working in the garden and learned skills to maintain a garden (Kowalski & Barrett, 2018). Pudup (2008) found that mentorship programs or apprenticeships increased the impact of sustainable farming practices.

### **Community Relationships**

Communal gardens can foster community relationships and a greater sense of belonging by affording open lines of communication between participants of different groups. Gardens encourage patrons to share common interests, enable neighbors to meet one another, and break down community racial and ethnic stereotypes. The visibility of the gardens attracts the attention of residents and visitors. This attraction toward the garden may create opportunities for conversations and breaking down barriers between strangers and generations. Thompson, Corkery, and Judd (2007) observed that these relationships among garden patrons afforded opportunities to bring individuals together around a commonly shared interest in and love of gardening through the sharing of food and recipes, which led to enhanced levels of trust, acceptance, and belonging. Thompson et al. (2007) also found that community gardens were viewed as social, caring places where friendships were formed as people interacted with others they might not otherwise meet. Additionally, community gardens have been shown to build community connections and generate employment and business opportunities in southern California where residents sometimes sold the produce they grew (Bussell, Bliesner, & Pezzoli, 2017). In a study of 63 community gardens in New York, Armstrong (2000) also demonstrated

that participants built relationships within the community by selling surplus vegetables. Ferris, Norman, and Sempick (2001) describe relationship building through selling produce in community gardens, termed “entrepreneur gardens,” in San Francisco. One study also revealed that community garden owners should continually organize events to give people a reason to visit, create opportunities to share ideas, and reinforce community gardens as a place to develop relationships among community residents (Koenst, van Melik, & Verheul, 2018). Cameron, Manhood, and Pomfrett (2010) were explicit about the types of interaction that facilitate connections and community camaraderie such as sharing seeds, seedlings, and produce among the garden community.

Cumbers, Shaw, Crossan, and McMaster (2018) illustrated that community gardens offer social empowerment, relationship-building opportunities, and revitalization of deprived communities through a study of 15 community gardens in Glasgow. They found that residents involved with the gardens actively engaged with residents in surrounding areas, generating broader community networks. These networks promoted social connections, collaborative community goals, and opportunities for collective learning (Cumbers et al., 2018). Okvat and Zautra (2014) found a greater sense of social connectivity and expansion in neighborhoods where green space was present due to increased community ties and a greater sense of security and belonging. Phillips (2003) also documented the connection between promoting community relationships and local food programs in multiple cities across the United States. She argued that bringing residents together to resolve a community problem increased their sense of belonging, interest in, and participation in community projects, including gardens. Bussell, Bliesner, and Pezzoli (2017) studied eight community gardens in southern California, and 50% of respondents believed that community connections were a benefit of participating in a community garden.



Interviews and survey data on the social impact of working together in a green space showed that community gardens fostered trust and relationship-building and increased social and economic value for garden participants (Bussell, Bliesner, & Pezzoli, 2017). Overall, the referenced studies reinforced the benefit of community gardens in building relationships.

### **Intra- and Interpersonal Skills Growth**

The National Research Council (2011) described intrapersonal skills as self-management and self-development. Examples of these skills were discipline, motivation, resilience, and dedication. In reviewing the literature, we found that community gardens have the potential to increase intrapersonal skills. For example, a study of 35 families who participated in a community garden demonstrated that when volunteers learn to garden, they experience increased intrapersonal skills such as self-esteem, self-competence, and self-love (D'Abundo & Carden, 2008). In addition, a study of two neighborhood community gardens with youth programs demonstrated that strong intrapersonal skills such as positive emotions, social interactions, and collective functioning can be a product of community gardens (Ober Allen, Alaimo, Elam, & Perry, 2008).

Spitzberg and Cupach (2011) defined interpersonal skills as synonymous with social skills. Examples of interpersonal skills were verbal and non-verbal communication, social intelligence, and relationship management. We found that the literature demonstrated the impact community gardens play on interpersonal growth. For example, a study of community gardens in New York demonstrated that community gardens foster interpersonal relationships through communal participation in maintaining the gardens, cultural celebrations in the gardens, and the establishment of a community goal to fight hunger (Armstrong, 2000). In addition, Thompson et al. (2007) studied urban community gardens and intimated that participation in the gardens

improved interpersonal skills by promoting collaboration, breaking down stereotypes, and providing opportunities to relax with neighbors. Lastly, in a study of families and community gardens, D'Abundo and Carden (2008) illustrated that community gardens impact interpersonal skills by fostering mutual respect, belonging, and collaboration.

### **Health and Wellness**

We organized this literature review section around three pillars of health and wellness: physical, mental, and spiritual health. Most literature focused on physical health and community gardens. Although we found literature on community gardens and mental health, the work mostly demonstrated perceived improvement in mental health and not concrete examples. In terms of spiritual health and community gardens, the literature tended to focus on spiritual connections to diet and the land that generates healthy food.

#### ***Physical Health***

The majority of literature we found described the impact community gardens have on physical health. To establish a connection between community gardens and benefits to physical health, Alaimo et al. (2016) evaluated empirical research to establish a multi-theoretical framework to find the influence gardening has on physical activity, diet, and incidences of disease. The study indicated that participants in community gardens are more apt to exhibit positive health behaviors such as eating more fruits and vegetables, exercising through gardening, and reporting less discomfort from physical ailments (Alaimo et al., 2016). In addition, Gregis, Ghisalberty, Sciascia, Sottile, and Peano (2021) reviewed 7,726 articles on community gardens and their impact on healthy lifestyles, revealing that connections between community gardens and patrons led to reduced body mass index (BMI), increased physical

activity, higher consumption of vegetables, and better health. As a result, Gregis et al. (2021) considered community gardens a viable way to promote public health.

Several impact studies focused on physical health from participating in community gardens. For example, in a study by Hartwig and Mason (2016), refugees who started a community garden increased their vegetable intake by 78%. In a 2008 study of 60-year-old volunteers, the researcher found that community gardens have the potential to promote physical health (Ayalon, 2008). In addition to healthy eating, benefits such as reduced blood pressure, reduced obesity, reduced sleeplessness, reduced blood sugar, and increased physical activity and strength were attributed to working in community gardens (Ayalon, 2008). Weltin and Lavin (2012) studied community garden participants with diabetes. Participants actively involved in maintaining the garden experienced a reduction in their HgA1c (diabetes) as compared with participants who did not regularly garden (Weltin & Lavin, 2012). Lastly, D'Abundo and Carden (2008) followed 35 low-income families working in a community garden to determine a connection between reduced obesity and participation in community gardens. The results suggested that community gardens may improve the personal wellness of participants.

### ***Mental Health***

Empirical evidence showed a connection between working in community gardens and increased mental health. For example, community gardening could encourage internal processes such as self-efficacy, improved attitude, autonomous motivation, and preferences toward positive mental health behaviors, which can influence diet and activity (Alaimo et al., 2016). Working in community gardens could offer mental health benefits and a state of well-being (Al-Delaimy & Webb, 2017). In addition, Okvat and Zautra (2014) found when community gardens are available, residents admitted feeling a sense of stress relief, a place to motivate themselves, and a

peaceful location to reflect, implying the potential for green space to dissipate negativity. Pitt (2014) also discussed stress relief as a benefit of working in community gardens and maintained that the process of gardening is therapeutic.

Several impact studies also demonstrated the influence community gardens have on mental health. In a 2011 study by McCaffrey, Liehr, Gregerson, and Nishioka, participants equated walking in gardens to stress relief. Experiencing the garden encouraged individuals to participate in art to ease depression and anxiety (McCaffrey et al., 2011). Armstrong (2000) found in a study of numerous community gardens in upstate New York that community gardens offer opportunities to increase positive mental health. Lastly, in a study of urban apartment dwellers, Mmako, Capetola, and Henderson-Wilson (2019) found that community gardens improved mental well-being. In particular, the study illustrated that community gardens brought together socially isolated community members and provided opportunities for increased social inclusion leading to a sense of belonging (Mmako et al., 2019).

### ***Spiritual Health***

Much of the literature on community gardens and spiritually focused on honoring the body with healthy food and maintaining a spiritual connection with the land on which healthy food is grown. For instance, in a study of spirituality and a better diet, Tan, Chan, and Reidpath (2014), connected eating healthy foods from community food resources to increased spirituality. They asserted that heightened spirituality promoted respect for the body, and eating healthy foods was a way to honor both the body and soul (Tan et al., 2014). Hanna and Oh (2000) discussed how green spaces deepened feelings of spiritual attachment to the land and heightened ecological awareness. Accordingly, community gardens initiated a desire to preserve open spaces (Draper & Freeman, 2010). In a study of community gardens in San Francisco, Ferris et

al. (2001) asserted that community gardens promoted the cultivation of the land in honor of environmental equity. Ghose and Pettygrove (2014) described a community garden in urban Wisconsin as a place to develop spiritual relationships between people and the land. Participants explained that working on the land and eating the food as a community was a transcendent process (Ghose & Pettygrove, 2014).

In summary, community gardens have the potential to impact community well-being. In particular, the literature showed that community gardens addressed food security and sustainability by providing fresh produce to underserved populations (Weiler et al., 2015). In addition, community gardens allowed communities to become self-supporting through mentorship opportunities and shared knowledge (Rogers et al., 2020; Pudup, 2008). The literature also demonstrated that community gardens impacted community relationships by building communal networks and encouraging shared goals (Thompson, Corkery, & Judd, 2007). Furthermore, community gardens fostered intrapersonal skills by increasing self-esteem and self-confidence and boosted interpersonal skills by supporting community participation and connections (D'Abundo & Carden, 2008; Armstrong, 2000). Community gardens additionally enhanced physical health by inspiring an increased consumption of vegetables and encouraging improved physical activity while working in the garden (Alaimo et al., 2016). Lastly, participating in community gardens addressed mental health by providing opportunities to reduce stress (Okvat & Zautra, 2014) and promoted spirituality by demonstrating the connection between eating healthy foods and nourishing the body (Tan et al., 2014).

### **Conceptual Framework**

The Wharton Grows program integrated the desire of Hesed House to improve environmental and communal conditions that contribute to health, quality of life, and social

networks. Accordingly, the purpose of the community garden program was to identify and apply effective practices to improve, sustain, and expand the operations and mission of the program. In an effort to conceptualize this investigation, we leveraged conversations with Stephanie about the Wharton Grows program goals combined with the review of relevant community garden literature to identify four inter-reliant concepts to guide our assessment of the impact the Hesed House community garden had on residents of Wharton.

Figure 1 illustrates each concept central to the objectives of the Wharton Grows program. In particular, the framework details environmental and social conditions that may result from the community garden initiative. The framework demonstrates the interdependence of these concepts and how they may impact participants of community gardens. Each pillar represents the conceptual ideas we used to direct an assessment of the impact of the Hesed House community garden program, Wharton Grows. This framework conceptualizes the impact the community garden should have on the residents of Wharton if it successfully meets the Wharton Grows program objectives.

**Figure 1**

*Framework for Social Intervention at Hesed House Community Gardens*



**Food Security and Sustainability.** The first pillar of the framework helped conceptualize the relationship between the Wharton community and food security and sustainability. The food security and sustainability pillar drew our attention to the importance of an environmentally aware, engaged, and self-supporting community. To reduce the likelihood that community members experience hunger, citizens may focus on their environment as well as the needs of their neighbors exhibiting their community engagement and environmental awareness. This awareness may create a sense of ownership in the operation of community gardens and thus, a self-supporting community. In addition, by offering classes promoting health

and wellness, the Wharton Grows community garden may improve food security and sustainability for Wharton residents. Overall, a community that can grow and provide food creates citizens who are confident in their ability to secure ongoing sources of healthy food (Alaimo et al., 2016).

**Community Relationships.** The community relationships pillar conceptualized the impact access to the community garden may have on its volunteers and patrons. As noted in the literature, community gardens help create a space for people to interact and develop relationships. We defined community relationships as social interactions between patrons, volunteers, and staff of Hesed House as well as commercial partnerships between Hesed House and other community organizations. Our assessment intended to identify how the Wharton Grows program nurtured these relationships through community-building and social interactions.

**Intra- and Interpersonal Growth.** Subsequently, the intra- and interpersonal growth pillar required that we attend to the skills development of volunteers and patrons of the garden. Examples of intrapersonal growth revolved around concepts of self-awareness, motivation, and inspiration. These experiences are obtained through learning opportunities, space to reconnect with self, and the encouragement of self-efficacy. In addition, interpersonal skills are nurtured through community involvement such as mentorships, occasions for teaching and learning, workshops, and public meetings at Hesed House.

**Health and Wellness.** The health and wellness pillar drew our attention to the positive emotional, physical, and spiritual health experienced by people interacting with the Wharton Grows program. Coleman (2007) identified emotional health as relaxation, recreation, stress relief, and clarity of mind. In addition, Saylor (2004) categorized physical health as healthy blood sugar, blood pressure, strength, and activity. Lastly, Ghose and Pettygrove (2014) defined



spiritual health through their study of community gardens as an affiliation with religious associations, connections to the environment, and acknowledgment of the land. Together, these concepts illustrate community wellness by ensuring individual health.

### **Project Questions**

Considering our analysis of the area of inquiry and its context, review of relevant literature, and development of the conceptual framework described above, we designed one overarching research question – with four composite foci – to guide the investigation. Our main project question was: **What is the impact of the Hesed House community garden?** To answer this question, we used a mixed methods approach, reviewing Hesed House documents and social media posts, and conducting a series of interviews with Hesed House staff, volunteers, and partners. We developed additional questions to support the main project question of defining the impact of the Hesed House community garden. These questions were formed to align with the conceptual framework encompassing food security and sustainability, community relationships, intra- and interpersonal growth, and health and wellness. We designed the following question and sub-questions to guide this project’s investigation:

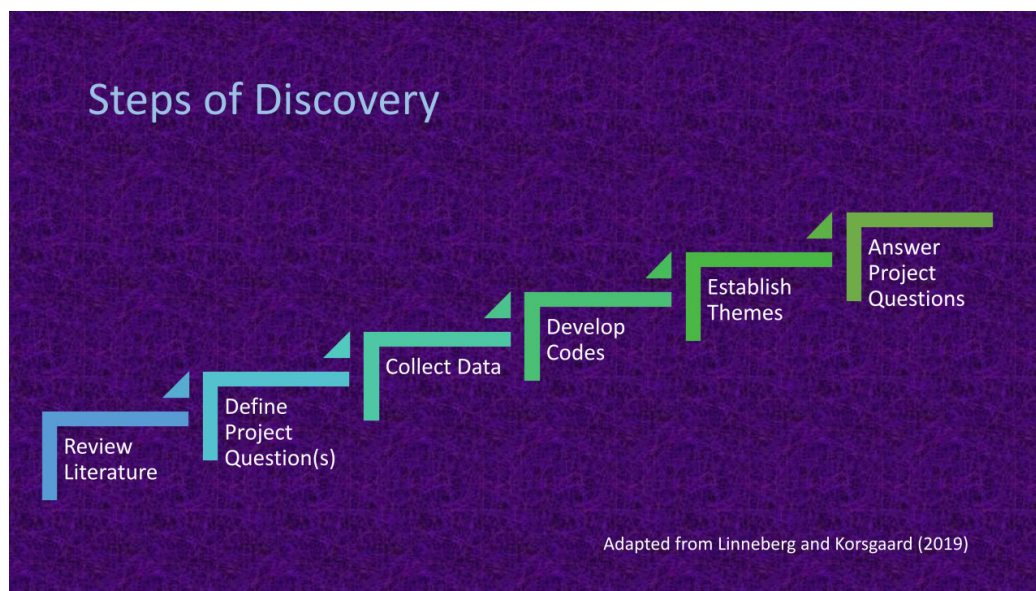
What is the impact of the Hesed House community garden?

- *on food security and sustainability?*
- *on community relationships?*
- *on intra- and interpersonal growth?*
- *on health and wellness?*

### **Project Design**

Our project was a program evaluation rooted in the examination of the Hesed House community garden program to understand its impact on the people of Wharton, Texas. The

community garden was open to all residents of Wharton and occasional visitors. Our methodology was adopted from the work of Linneberg and Korsgaard (2019) and presented six steps of discovery (Figure 2). To begin, we discussed the goals Hesed House hoped to achieve through the community garden. We then reviewed literature, city records, and online media collected on the city of Wharton, its residents, Hesed House, and the Hesed House community garden. Once we developed our focus questions (Appendix A), we used the data from the Hesed House document review and discussions with the executive director to generate qualitative interview questions addressing our area of inquiry (Appendix B). In addition to conducting interviews, we scraped Hesed House social media posts on Facebook and Instagram to identify connections to our project questions. Following the web scraping and interviewing, we generated deductive code words based on the common themes. We counted the incidences of key words to identify key themes and potential relationships between the qualitative evidence and each category of our conceptual framework. We revisited interview transcripts for context to ensure data reliability. Lastly, we tied the key themes to our project questions, documented our findings, and offered recommendations.

**Figure 2***Steps of Discovery***Data Collection**

We collected data through a mixed methods approach by reviewing Hesed House grant applications, scraping Facebook and Instagram social media posts, interviewing Hesed House staff, volunteers, and patrons, and visiting Wharton, Hesed House, and the community garden.

**Document Review**

During our initial discussions, Stephanie provided the team with copies or links to documents she thought relevant to our project. She provided the team with access to electronic copies of the documents that established Hesed House as a nonprofit organization, historical documents on Wharton County, the city of Wharton, and grant applications and documents for current initiatives. These documents included the Wharton Economic Resilience Profile, Wharton flood history data, school accountability ratings, the Wharton Levee Project description, Colorado River crest data from 2016-2021, Hesed House organizational information, and Wharton County demographics.

## **Social Media Review**

Team members followed Hesed House on both Facebook and Instagram beginning in July 2021. Because we were geographically separated from our partner organization, following them on Facebook and Instagram enabled us to observe the organization's activities and allowed team members to generate relevant questions for volunteers and staff members during interviews. Hesed House also provided the team with social media historical data for May 2021 and May 2022. The social media data obtained helped inform our project, allowing us to confirm if an impact on community involvement and community relationships was influenced by social media.

## **Interviews**

We conducted qualitative interviews using semi-structured protocols (Brenner, 2006; Appendix B). The purpose of the interviews was to explore who and how people benefited from the community gardens. In addition, we aimed to find why people want to go to the garden and what physical, mental, and social benefits they gained from their participation. We conducted these interviews between June 2021 and March 2022. Due to travel constraints during the Covid-19 pandemic, interviews were conducted via Zoom or in person. Overall, we completed twelve interviews with ten people. Three interviews were with the Hesed House executive director, Stephanie Konvicka. The remaining interviews were with two Hesed House employees, three partners, and four patrons/volunteers. Participants were selected based on the executive director's recommendation and the snowball method with recommendations from other interviewees. Interviewees were chosen based on their association with the community garden in relation to the four pillars of our conceptual framework and areas of inquiry. Specifically, we looked for individuals who could articulate the impact the Hesed House community garden had

on food security and sustainability, community relationships, intra- and interpersonal skills, and health and wellness. Of the interviewees selected, only one person recommended to us did not return our call requesting an interview. All other interviewees were eager to speak with us about their perspective of, interest in, and participation in the Hesed House community garden. We requested to interview active community garden volunteers, garden mentors, Hesed House staff, and donors to the garden. The executive director recommended people she thought would be willing to meet with us based on our request. We specifically asked to meet with the owner of the local feed store and a city employee after references from other interviewees. Interview procedures were the same for each individual and allowed the interviewee an opportunity to share their personal experience working in the community garden. The interviews were recorded and transcribed with Otter AI software for further investigation.

### **Site Visits**

We conducted two site visits including a tour of Wharton and Hesed House facilities led by the executive director. The first visit occurred in October 2021 and the second visit was in March 2022. We observed the city and facilities in order to experience the environment from the viewpoint of citizens who would benefit from Hesed House's projects. These visits enabled the project team to see the conditions in which Wharton residents live. They allowed the team to observe Wharton's diverse community: 41.6% Hispanic, 30.2% White, and 26.4% Black/African American (Data USA, 2022). Jim commented that he never imagined so much destruction would remain years after a natural disaster anywhere in the United States. He previously observed this type of destruction in war-torn areas of Bosnia. These visits generated a deeper understanding by the team of Hesed House's organizational culture and context to assist

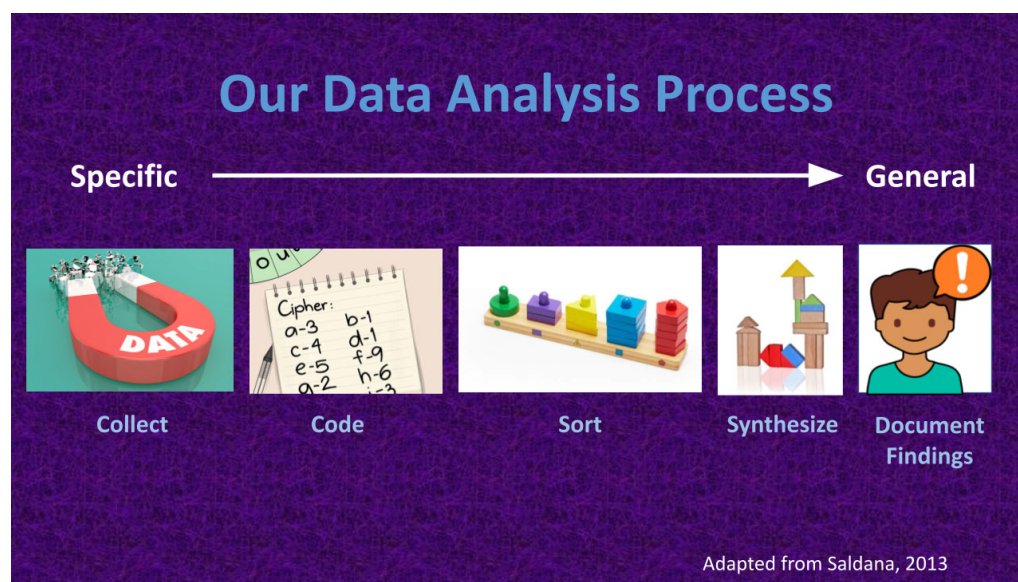
in interpreting our findings. We kept field notes to capture what we noticed about the community, Hesed House, the community garden, and the interactions among them.

### Data Analysis

We used Saldana's (2013) coding cycle to guide our coding and analysis process (Figure 3). We collected data from Hesed House documents, social media, and interviews and developed deductive codes aligned with our conceptual framework and coded the interviews accordingly. Adopting the coding theory from Linneberg and Korsgaard (2019), we compared our coded data with interview notes and transcripts considering the context of the coded words to ensure relevance and reliability. As Gioia, Corley, and Hamilton (2013) suggested, we used our interview transcripts, social media data, and Hesed House documents to identify connections to develop code words. Analysis of the codes, documents, social media, and transcripts allowed us to develop responses to our project questions, interpret connections to our conceptual framework, and develop recommendations.

### Figure 3

#### *Our Data Analysis Process*



## **Document Analysis**

We reviewed documents for background information on the history of Wharton County, the city of Wharton, and Hased House. We divided up documents for reading and marked them as relevant to 1) describing the city of Wharton, 2) describing Hased House, 3) describing the Wharton Grows initiative, and 4) evidence of impact. We looked at previously documented initiatives, grant applications, and current and future planning opportunities. All the documents reviewed provided background on the history of Wharton or Hased House, enabling team members to understand the community we would be interviewing and the culture of both Wharton and Hased House. The documents most germane to this project were previous grant applications for the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Wharton County Economic Resilience Profile (Houston-Galveston Area Council, 2018). Each one described how the community of Wharton, with a higher than national average number of residents living in poverty, has been overwhelmed by a series of traumatic events further exacerbated by the Covid-19 pandemic (Data USA, 2022). These events caused disruptions in social services such as school closures. Housing destruction and job loss caused families to face eviction, food insecurity, and disconnection from friends and family. These stressors indicated an impending mental health crisis in a community with scarce and overstretched resources. This review established a nexus of the importance of the community garden as a place for residents to reduce their food insecurity, find solace in the land, and establish connections with other residents.

## **Social Media Analysis**

We began following Hesed House's media posts in July 2021. Since we were geographically separated, this activity enabled the team to remain engaged with Hesed House activities. In addition, we reviewed the Hesed House website, Facebook, and Instagram posts in May 2021 and May 2022 to confirm the information being shared with the public by Hesed House and the number of community members reached. Hesed House used social media posts as one method to inform their patrons and volunteers about events and information. Scraping social media sites enabled us to provide Hesed House with information about their audience and what content the audience preferred from Hesed House. We used Meta Business Suite to track how Hesed House posts performed, identify key trends, and learn more about the demographics of those viewing and following Hesed House's social media accounts. To analyze Hesed House's social media posts, we looked at age and gender of viewers, top cities of individuals who comment, follow, or post on social media websites regarding Hesed House, and the daily number of viewers reached during a one-month period. We identified days of the week people were most engaged and where viewers were geographically located. We used Google Trends to analyze keywords associated with Wharton and Hesed House in Google searches. This information enabled us to confirm if increased traffic occurred on a website or about a certain word or phrase such as "Hesed House".

The data obtained helped us answer the specific project question, what is the impact of Hesed House community gardens on community relationships? We analyzed the data collected to see which posts received more or fewer likes, shares, or comments. We compared trends of



the prevalence of our deductive codes in Hesed House social media posts to determine how the Hesed House audience used social media to follow events at the Hesed House.

### **First Pass Interview Data: Coding**

Following St. Pierre's and Jackson's (2014) guidance that the most vital qualitative data was rhetoric spoken during interviews, we considered the interview data to be primary to our investigation. We decided interviews would be the most effective way to determine the impact of the Hesed House community garden because no other qualitative or quantitative data regarding the community garden impact existed. After reviewing Hesed House documents and conducting the interviews, we developed a deductive code book to determine the frequency and impact of themes related to our conceptual framework (Appendix C). As Elliot (2018) suggested for qualitative data analysis, we used coding to categorize information to make sense of interview data as it related to our project questions. Based on the recommendations of Creswell and Poth (2017), we began with our conceptual framework and determined nine sub-categories as the initial codes for the interview data. Saldana (2013) advocated coding with words and short phrases, so we generated approximately 50 deductive codes associated with the subcategories of our conceptual framework rather than using an inductive approach. We developed these codes after initial interviews, but before our first round of coding. Miles, Huberman, and Saldana (2014) explained that code words assign meaning to descriptive data. Accordingly, we aimed to ensure code words reflected concepts embedded in our project questions. In addition, as Linneberg and Korsgaard (2019) suggested, we added new, abductive code words as our coding and analysis progressed. Ultimately, we identified 74 potentially relevant code words to mirror our conceptual framework. We then replayed each interview and analyzed the interview transcripts to record every occurrence of code spoken by an interviewee.

We did not use coding software due to the manageable numbers of transcripts, the size of our code list, and the scope of our investigation. Instead, we used Microsoft Excel to document each time we identified a code word. Harding (2013) advised that codes mentioned by one-fourth of participants must be considered in the final review of the data. Therefore, we ensured all codes were consistently noted; even if a word was only mentioned once by an interviewee, if multiple people mentioned it, we deemed it relevant.

Simply counting the occurrence of words, of course, could easily decouple the meanings of interviewees' accounts from the words themselves (Brenner, 2006). As such, we were careful to use these counts only as our beginning deductive frame and returned to the context of each code in the transcripts for our later passes of the interview data. For example, one of our code words was “produce” and its intended definition was “harvested plants”. The following reference did not apply to the context of our code word, “we just wait for it to *produce*, and that is kind of the process” (Gina, personal communication, October 12, 2021). Therefore, we did not count the word “produce” in that instance. In addition, we confirmed the speaker of the code words to not code language spoken by the interviewer rather than the interviewee. Following each round of coding, we analyzed the high frequency code words, sorted them into themes, and synthesized interview context and quotes to develop our findings and recommendations (as described below).

### **Second Pass Interview Data: Sorting**

Following the coding of the interviews, we reviewed the most prevalent code words. Each team member revisited the interview transcripts to validate the codes and confirm context applied to the defined subcategories of the conceptual framework. We then identified the most prevalent themes evidenced through our coding.

### ***Food Security and Sustainability***

We extended the food security and sustainability category into three subcategories: environmentally aware and engaged in the community, self-supporting community with ownership in production, and offer training and skills to promote community health. Of the 18 codes identified for these categories, we noted 868 instances of the code words from our twelve interviews. Half of the responses included reference to the garden and over ten percent referenced growing. The garden impacted the interviewees with respect to food security and sustainability as evidenced by the context in which they repeatedly mentioned fresh produce, gardening, growing, vegetables, and plants in the interviews.

### ***Community Relationships***

In coding interview responses for community relationships, we established a total of 14 codes and confirmed 234 mentions of those codes. The words “park” and “class” represented 50% of the total responses for the community relationships category. Overall, the data demonstrated a connection between the Hesed House garden and the promotion of community relationships. In particular, the data prompted us to examine how the garden fostered relationships through community learning, discussions, and partnerships. We revisited interview transcripts to find evidence of this community relationship promotion.

### ***Intra- and Interpersonal Growth***

We broke down the coding in this section into two subcategories, “community involvement” and “self-efficacy”. The 14 codes in these subcategories appeared 191 times in our interviews. The word “volunteer” was referenced in half of the responses. The next three highest responses were in the “self-efficacy” subcategory, with references to learning, gaining

new skills, and poetry. In all, we found that the coded responses reflected themes in our conceptual framework.

### ***Health and Wellness***

Three subcategories, “mental”, “physical”, and “spiritual” were developed to identify the interviewees’ perception of health and wellness. We generated 24 codes for these categories that garnered 321 coded responses from our interview transcripts. These responses largely fell in the “mental” subcategory. The code words “Covid-19” and “support” were the most prevalent with an 18% response rate each. These results prompted us to review interview transcripts to gain a deeper understanding of the promotion of and perception of health and wellness in the Hesed House garden and among its patrons and volunteers.

### **Third Pass Interview Data: Synthesizing**

After identifying the key themes from the coding and sorting exercises, we used the coded results to examine the interview transcripts and identify the specific evidence to answer our project questions. The synthesis of the evidence resulted in our findings, discussed later in this paper.

### ***Food Security and Sustainability***

Given the large response to the code word “garden”, we looked for evidence of food security and sustainability offered by the community garden. Hesed House received seed and plant donations from their partners such as Wharton Feed and Supply and HEB grocery. They found ways to offer fresh produce to community members during the Covid-19 pandemic.

The theme of communal growing and sharing of produce was evident throughout our interviews. Garden volunteers expressed that they were part of every aspect of the garden. Volunteers voiced that working in the garden made them more aware of what they ate and gave

them a sense of ownership in growing their own food. In addition, many felt that working in the garden directly benefited their community and put food on their neighbor's table.

Planting was also a recurring theme in the interviews. Aside from learning how to garden, interviewees noted that planting consisted of knowing what to plant and how to maintain those plants by season. Although the garden had a core group of ten volunteers, they needed more help in the summer months. Together, the volunteers and the seeds helped facilitate sustainable gardening practices.

### ***Community Relationships***

Guided by the coding results, we investigated the interview transcripts to reevaluate the perceived impact of the garden, the park, and the classes on community relationships. Patrons congregated for yoga, gardening, art, and other classes. Interviewees described encounters among community residents as encouraging conversations and building a sense of trust among each other. The support from the city of Wharton to expand the footprint of Hesed House to include more community open-use space and gardening areas reinforced city leadership's commitment to enhancing community relationships. Participants also felt that the act of volunteering in the garden created a community space to gather and collectively grow friendships and food. Analysis of interview transcripts revealed the prevalence of community relationships through learning opportunities provided by Hesed House in the form of classes and gardening.

### ***Intra- and Interpersonal Growth***

We previously defined intra- and interpersonal growth as the development of self-management and social skills among the patrons and volunteers at the Hesed House community garden. We examined the interview transcripts to identify themes associated with self-efficacy

and connecting with others. We asked people about whether the garden contributed to them learning new things and they confirmed the benefit of gardener mentors and the feeling of fulfillment from learning how to grow their own plants. They believed participating in events at the garden helped them become more personally aware of their emotions and taught them to collaborate with fellow community members. A few people shared their experiences learning about composting, preparing garden beds, and growing and transplanting seedlings. Their trials with gardening and harvesting in the community garden inspired them to create home gardens. Through these activities, volunteers exhibited self-reflection and initiated collaboration with their peers. These examples of the expansion of skills exhibited how interacting with the community garden could enhance intra- and interpersonal growth.

### ***Health and Wellness***

Our interview questions included asking people how they felt while in the garden and if they thought it contributed to their own improved health. After coding the interviews and identifying key themes, we revisited the interview transcripts for context. In many cases, interviewees confirmed the garden increased their connection to the land and they felt better either while working in or walking through the garden in addition to a general feeling of improved health due to eating more fresh fruits, vegetables, and herbs.

### **Findings**

The goal of our analysis was to understand the impact of the Hesed House community garden, given the data available to us. We organized our findings below according to the project sub-questions that focused on the garden's impact on food security and sustainability, community relationships, intra- and interpersonal growth, and health and wellness.

- 1 The Hesed House community garden impacted food security and sustainability by teaching participants how to build and maintain a garden.
- 2 The Hesed House community garden encouraged relationships with community resources to support sustainability of the garden.
- 3 Hesed House distributed produce from the garden to individuals in the community.
- 4 Activities offered in the Hesed House community garden increased community relationships by providing opportunities for people to interact with and learn from each other.
- 5 The Hesed House community garden impacted interpersonal growth by presenting opportunities to connect with others and strengthen community bonds.
- 6 The Hesed House community garden impacted intrapersonal growth by offering opportunities for personal transformation.
- 7 Participants perceived that the Hesed House community garden positively impacted their mental health.
- 8 Participants perceived that the Hesed House community garden positively impacted their physical health.
- 9 Participants perceived that the Hesed House community garden positively impacted their spiritual health.

**Project Question: What is the impact of the Hesed House community garden?****Sub-Question 1: What is the impact of Hesed House community gardens on food security and sustainability?**

**1** The Hesed House community garden impacted food security and sustainability by teaching participants how to build and maintain a garden.

The Hesed House community garden program regularly offered classes to teach participants how to grow their own produce. It provided numerous classes and learning experiences for new to experienced participants that created a community of gardeners skilled at producing rotating crops of produce and flowers. Classes categorized as either Wharton Grows or Earth Lab were held at least once per month, expanding to twice per month starting in September 2022. Learning opportunities at Hesed House supported topics such as using grow bags, seasonal planting, cultivating dirt and compost, succulents, and understanding natural pollinators. Classes were taught by Hesed House leaders, volunteers, and master gardeners. One class revolved around the purpose of bugs in gardening (Figures 4 and 5). The instructor, Stephanie, shared that gardening involves knowing about insects that facilitate the growth of a garden. “Teaching people to please don't squish our bugs! Please don't kill our caterpillars. That's a good caterpillar. Teaching people that not all, not all bugs are pests” (Stephanie, personal communication, March 7, 2022).



**Figure 4***Pollinators in the Garden***Figure 5***Pollinator Class in the Garden*

In total, classes were attended by close to 100 participants and served 50 garden volunteers. Classes also taught patrons and volunteers the importance of pollinators in the garden. In fact, Hesed House was in the process of becoming a certified apiary. This certification could allow participants to further sustain a productive garden with bees as pollinators. During interviews, several patrons described how much they learned during community garden classes. One participant noted that she started as a novice gardener, but the classes helped her to develop her gardening skills, and she became more confident gardening and experimenting growing different types of produce. Another participant explained that she learned a lot about pesticides. In addition, one participant, a longtime patron of Hesed House, equated the classes to an apprenticeship and described her training in the garden as the reason why she contributed to a successful harvest. “The training is like an apprenticeship. It's definitely a communal project. I'm one of many” (Gina, personal communication, October 20, 2021).

Volunteers at the Hesed House community garden were inspired to participate in the garden from planting to harvest. The approximately 50 volunteers took ownership of the garden and were motivated by the growing process. Several participants expressed that their favorite part of working in the garden was seeing the fruits of their labor. This sentiment led to a feeling of commitment to the community garden. Overall, participants experienced a sense of self-reliance knowing that they could grow their own food. Gina, an avid volunteer, explained that she appreciated her food more because she grew it from seed.

I definitely appreciate it more than just going to the store and pulling it out. I definitely appreciate it and the work that goes into it. And the process it takes to grow it and all of that. So, I am definitely more aware of it. (Gina, personal communication, October 20, 2021)

Another volunteer, Rebecca, described her ownership in the process of gardening.

It's something to look forward to, you know. No matter how hot it is, or how much you sweat out there. Getting to see what's produced and knowing that you're a part of it and that you're helping other people. It makes it worth it. (Rebecca, personal communication, October 26, 2021)

Volunteers also described feeling personally invested in the Hesed House garden and detailed that maintaining the garden fostered personal satisfaction while helping others with food security.

2

The Hesed House community garden encouraged relationships with community resources to support sustainability of the garden.

The Hesed House community garden program established a relationship with the local feed store to obtain seeds and discounts on supplies for the garden and solicit new volunteers.

Accruing seeds was a recurring theme in the interview transcripts. Several volunteers mentioned the importance of seeds in the sustainability of the garden. Accordingly, Hesed House established a relationship with the local feed store. Amelia, a Hesed House employee, described the organization's relationship with the feed store. "We partnered up with the feed store and tried to figure out how we could benefit - like help everybody" (Amelia, personal communication, October 8, 2021).

The Hesed House relationship with the feed store impacted the community garden by securing seeds for the garden, generating volunteers, and promoting gardening skills in the community. The feed store donated seeds and facilitated a seed swap. The result was a collaboration of knowledge and a means to secure a variety of vegetables in the community garden. The director of Hesed House, Stephanie, explained the seed swap.

So, with the seed swap, everything was labeled. They were able to take what they wanted. And we would help. We would Google things for people, and there was a lot of conversation kind of like 'Well, how big does this grow?', 'When do I plant it?' Some of it wasn't even Googling. It was asking people who brought the seeds to say how this works because some of it was unusual." (Stephanie, personal communication, March 7, 2022)

In addition to providing seeds, the feed store offered discounts on supplies, helped recruit new garden volunteers, and distributed information about garden activities. The feed store allowed Hesed House to post flyers about upcoming classes and recruit new volunteers. The director of Hesed House, Stephanie, described the process of posting flyers. "We've put fliers at the feed store where we'll start being more intentional about putting actual fliers out" (Stephanie, personal communication, March 7, 2022). The link to the feed store enabled Hesed House to expand the

community garden programming with limited resources because of the donations and discounts offered by the feed store.

3

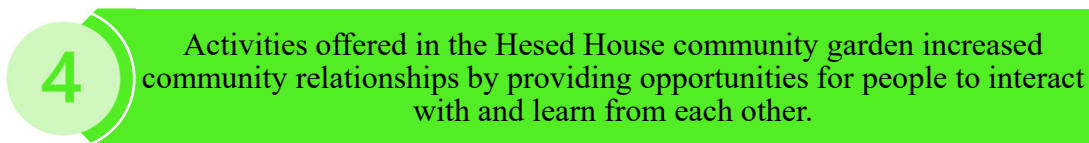
Hesed House distributed produce from the garden to individuals in the community.

Hesed House focused on produce distribution during the Covid-19 pandemic to improve the physical health of patrons. Hesed House staff and volunteers believed that distributing fresh produce directly tackled issues of food insecurity. The pandemic presented several challenges to community residents. Many individuals who received food from the garden were isolated at home and unable to otherwise obtain fresh vegetables at the start of the pandemic. In total, 30 families received produce multiple times during the pandemic. Many other people gathered produce from the garden or took produce from surplus baskets left outside the Hesed House headquarters building. One volunteer discussed concern about immunocompromised patrons who were suffering health-wise due to a lack of fresh produce. Another volunteer equated eating the garden's vegetables to medicine. Feeling that the garden's produce offered health benefits to the community, Hesed House leadership became intentional about who received produce and how the produce was delivered during the pandemic. Hesed House grew 500 pounds of produce in 2020, exhibiting the volume of produce afforded to the community. Volunteers adapted distribution protocols to offer this amount of produce and address the community's health needs. Consequently, they left produce on the Hesed House headquarters porch for people to take, managed neighborhood deliveries and invited volunteers back into the garden as Covid-19 restrictions lessened. Two employees of Hesed House discussed distributing food during the pandemic. "Covid-19 happened, and people couldn't get food. People needed to be fed" (Amelia, personal communication, October 8, 2021). "We were being super intentional about

distributing out into the neighborhood at the beginning of Covid-19” (Stephanie, personal communication, March 7, 2022). Hesed House employees and volunteers ensured produce was available for community residents at the height of the Covid-19 pandemic.

**Project Question: What is the impact of the Hesed House community garden?**

**Sub-Question 2: What is the impact of Hesed House community gardens on community relationships?**



Classes offered in or near the Hesed House garden promoted community relationships by bringing people together. With respect to community relationships, we noted several promising practices implemented by Hesed House to grow community relationships. To promote community participation, Hesed House diversified class material to offer multiple learning opportunities that attracted the Wharton community and appeal to individual interests. Their partnership with the Wharton Garden Club helped to bring knowledge from master gardeners to community members. Overall, Hesed House offered classes on such gardening topics as mindful gardening, pollination, herbs, birds, seeds, and planting in containers. In addition, Hesed House held yoga, history, and art classes next to the garden. To increase participation, most classes were offered free to Wharton residents. Each month community members were invited to multiple Hesed House classes designed to enhance community wellness, honor individual culture, and foster community relations (Figure 6).

**Figure 6***Hesed House Flyer of October Events*

Hesed House classes and volunteer activities promoted community relationships through participant fellowship. Hesed House activities fostered community relationships through discussion, collaboration, and friendship. Most patrons shared that they met new friends and made connections when participating in garden activities and classes. One volunteer shared that volunteering in the garden made her feel part of the community because she was helping others learn new skills.

One thing I love about it is it brings me in contact with people that I might not otherwise meet or different people, people that are outside of my day-to-day. We're becoming friends through it, which is really good. I think it helps grow the community as well as what is literally growing in the garden. (Gina, personal communication, October 20, 2021)

For many garden patrons, teaching and interacting with others through classes and impromptu discussions in the garden became a way to establish social ties while helping their community grow. The director of Hesed House, Stephanie, discussed how learning happens naturally in the garden. “Gardeners assume everyone wants to learn. So, a lot of our garden club people, if they come for something, kind of naturally start teaching” (Stephanie, personal communication, March 7, 2022).

In addition, several yoga class participants shared photographs of what they were growing at home or asked for advice on planting with other participants. These conversations helped facilitate camaraderie and established community relationships. Stephanie shared how yoga classes foster community relationships.

In our chair yoga class, we have this group of older women who, because of the garden, have started bringing cuttings from things they grow out to the garden. Miss Lucy shows up with things all the time. Everybody's showing pictures of what they know and how plants are doing. (Stephanie, personal communication, March 7, 2022)

Families who volunteered in the Hesed House garden described feeling stronger bonds with each other and their community. Garden patrons expressed that they felt more connected to their families when participating in garden activities. Several patrons shared that they came to the garden with their families to learn about gardening and experience camaraderie. Many volunteers saw the garden as a way to connect people through food, knowledge, and community. One patron described that working in the garden passed knowledge between generations. Another patron detailed how the garden helped her establish a meaningful relationship with her grandchildren. Mostly, the interviewees expressed that working and learning with family in the garden made them feel like they were an essential part of the community and were actively

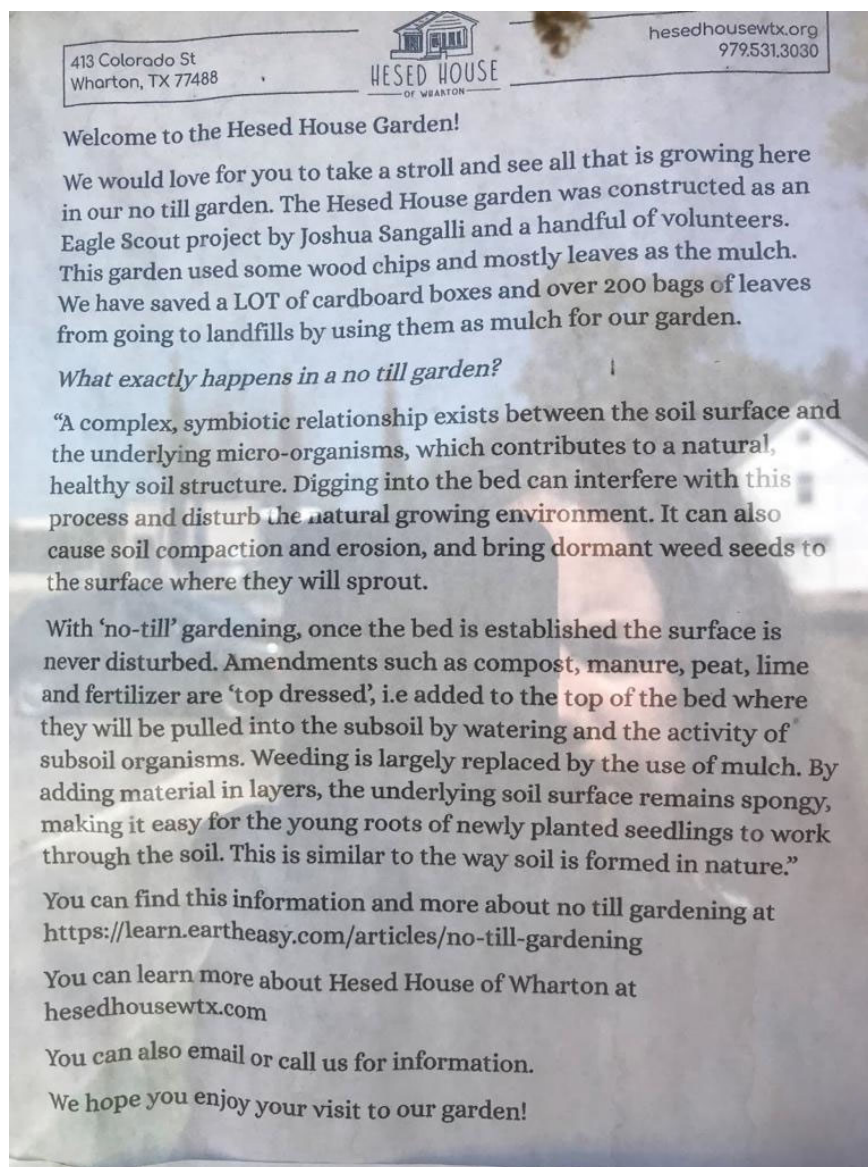
promoting the well-being of others. Amelia, a Hesed House employee, shared that working in the garden brought her closer to her mother. “The garden brought me and my mom closer. My sisters had no interest in it until they ate the food, and they're like all of this is awesome” (Amelia, personal communication, October 8, 2021). Danielle, a master gardener and community garden mentor, discussed that working in the garden brought families closer. “I love helping people. I love helping people and seeing everybody getting out [in the garden] and being together, families, doing things. It definitely makes me feel good” (Danielle, personal communication, October 8, 2021). The Hesed House community garden facilitated bonding moments among patrons and volunteers.

Hesed House community garden activities promoted community relations by attracting all age groups. Although many classes focused on elderly and adult populations, the garden presented opportunities for youth to engage with each other, their families, and their community. Amelia, a Hesed House employee, talked about the presence of children in the garden. “One family that had kids. They were spitting out watermelon seeds. Their infant was out there playing in the dirt helping like all the boys. The children were bonding together over gardening” (Amelia, personal communication, October 8, 2022).


Hesed House offered multiple opportunities for youth to become involved in the garden such as formal classes, projects, and working alongside experienced gardeners. For example, Hesed House held a Junior Master Gardener certificate workshop. The garden itself was built as part of an Eagle Scout project and Hesed House hosted two additional Eagle Scouts projects in 2021 (Figures 7 and 8). Such projects reflected community inclusiveness and ties built between garden participants, businesses, and patrons.



Figure 7

*No-Till Eagle Scout Project at Hesed House*

413 Colorado St  
Wharton, TX 77488

 HESED HOUSE  
OF WHARTON

hesedhousewtx.org  
979.531.3030

Welcome to the Hesed House Garden!

We would love for you to take a stroll and see all that is growing here in our no till garden. The Hesed House garden was constructed as an Eagle Scout project by Joshua Sangalli and a handful of volunteers. This garden used some wood chips and mostly leaves as the mulch. We have saved a LOT of cardboard boxes and over 200 bags of leaves from going to landfills by using them as mulch for our garden.

*What exactly happens in a no till garden?*

“A complex, symbiotic relationship exists between the soil surface and the underlying micro-organisms, which contributes to a natural, healthy soil structure. Digging into the bed can interfere with this process and disturb the natural growing environment. It can also cause soil compaction and erosion, and bring dormant weed seeds to the surface where they will sprout.

With ‘no-till’ gardening, once the bed is established the surface is never disturbed. Amendments such as compost, manure, peat, lime and fertilizer are ‘top dressed’, i.e added to the top of the bed where they will be pulled into the subsoil by watering and the activity of subsoil organisms. Weeding is largely replaced by the use of mulch. By adding material in layers, the underlying soil surface remains spongy, making it easy for the young roots of newly planted seedlings to work through the soil. This is similar to the way soil is formed in nature.”

You can find this information and more about no till gardening at <https://learn.eartheasy.com/articles/no-till-gardening>

You can learn more about Hesed House of Wharton at [hesedhousewtx.com](http://hesedhousewtx.com)

You can also email or call us for information.

We hope you enjoy your visit to our garden!

**Figure 8**

*Bulletin Board Eagle Scout Project at Hesed House*



Hesed House regularly encouraged school age children to visit the garden with their parents. Stephanie, the director of Hesed House, discussed the wonder children experience in the community garden.

Children love the garden. We just planted a second grader's lima bean that she went home with at the end of school in a cup, and it outgrew the cup. They were like, can you save my bean in the garden? So, she now comes and visits her bean in our garden. His name is Limey. (Stephanie, personal communication, June 30, 2021)

Volunteers shared that they appreciated youth in the garden, enjoyed building social bonds, and saw children as essential members of the garden community.

The community relationships previously fostered through the Hesed House community garden were not significantly impeded by Covid-19 pandemic disruptions. Volunteers and patrons agreed that garden classes and activities prompted them to come together as a community even though they were over Zoom or through a video. In all, community members conveyed that the garden helped them survive the isolation of the Covid-19 pandemic restrictions because it served as a reason to come together. They claimed they felt the garden was a place to safely socially distance and maintain community relationships. One volunteer expressed that video classes made her feel connected to others while helping to solve gardening problems, brought her closer to other community members, and allowed her to bond with her friends despite social distancing. “I especially like a video of Stephanie explaining things in classes with other well-trained gardeners. I definitely benefit from doing little tutorial videos. And I wanted to do Zoom meetings where the gardeners can meet with one mentor” (Amelia, personal communication, October 8, 2022). Maintaining connections virtually or in socially distanced ways allowed Hesed House to continue serving the community during the early days of the Covid-19 pandemic.

Social media scraping revealed an increased reach to the population year over year, likely driving increased community participation and relationships. The analysis<sup>2</sup> of the available social media statistics revealed that 872 individuals liked Hesed House on Facebook and 465 people followed Hesed House on Instagram. Data showed 90% of the Facebook page likes were from account holders who identified as female and 80% of the Hesed House Instagram followers identified as female. Thirty percent of the Instagram followers and 55% of Facebook viewers

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<sup>2</sup> We did not have administrative rights to the Hesed House social media accounts and Amelia had a family emergency and was unable to assist in gathering data, so web scraping was not as effective as it might otherwise be.

were from Wharton, Texas. The next highest number of Facebook followers were from the neighboring city of El Campo with just over 7%. Twenty percent of Instagram followers were from Houston.

The highest number of content viewers of the Hesed House Facebook page in the last two years was 2049 on Thursday, May 12, 2022. Hesed House posted about an alligator sculpture and fresh pizza. The Wharton Volunteer Fire Department helped move the sculpture into place and fresh summer pizza was advertised at the Wharton County Farmers Market the following Saturday (Figures 9, 10, 11, and 12). The community reaction to the post demonstrates evidence of building community relationships. This post received 35% more Facebook likes than the next highest post. Posts in May 2022 received an average of 552 likes per post compared with an average of 317 likes for posts in May 2021.

Instagram followers numbered 140 in May 2022, more than double the 63 followers in May 2021, indicating that Hesed House social media following increased over the past year, reaching more people. The executive director expressed her feeling that direct mail and word of mouth about Hesed House events were more impactful than social media posts. Additionally, she described feeling that those methods of touching people were more effective.

Oddly, a lot of our population served isn't on social media. So, emails are pretty important and just telling them when they show up to things like hey, we're going to you know, and once we're, like kind of operating, we're out of here. We planned to put things out on these chalkboard sandwich signs so people can see just when they drive up that sort of thing. (Stephanie, personal communication, March 7, 2022)



**Figures 9, 10, 11, 12**

*Wharton Fire Department, Gator Carving, Gator Transport, Fresh Pizza*



**Project Question: What is the impact of the Hesed House community garden?**

**Sub-Question 3: What is the impact of Hesed House community gardens on inter/intrapersonal relationships?**

**5**

The Hesed House community garden impacted interpersonal growth by presenting opportunities to connect with others and strengthen community bonds.

Interpersonal skills relate to the social interactions between people. Hesed House volunteers claimed that their work in the garden strengthened their relationships with friends and fostered opportunities to meet new people. Participants enjoyed meeting new volunteers and experiencing others' desire to assist their community. One volunteer, Rebecca, described how garden participants were eager to interact with each other and help when needed.

It's in the way you can just feel it in anybody that you encounter. For the most part, they are always more than willing to help in whatever way possible. And, if they can't do it, oh, let me find somebody. (Rebecca, personal communication, October 26, 2022)

Participants seemed excited to make connections through their love of gardening and shared that they readily approached new volunteers to help them. As a result, volunteers expressed a feeling of ownership in their skills and looked forward to collaborating with other volunteers. These collaborations often resulted in ongoing mentoring opportunities, which ultimately led to more skilled gardeners. Stephanie, the director of Hesed House, talked about how people connected in the community garden.

People connect in the garden, especially our volunteers who are in the garden. Someone comes to the park and shows interest, and the volunteers help. They feel empowered to say, 'Come look and come see.' Those kinds of connections are things that I think our community has lost. It's been really neat to see it. (Stephanie, personal communication, March 7, 2022)

Amelia, a Hesed House employee, described the importance of mentor relationships in the Hesed House garden.

She and her husband became mentors for the families because they can garden, a lot better than I can. They help a lot with the people that don't have as much knowledge. I

am always open to anybody that needs help, and we encourage them to go to the feed store because they have a ton of knowledge. (Amelia, personal communication, October 8, 2021)

Lastly, the Hesed House garden seemed to foster excitement over patrons and volunteers sharing recipes and eating healthy produce. Participants, such as Amelia, expressed that collaborating on recipes and eating cooked vegetables with their neighbors strengthened community ties.

I think the garden is definitely bringing a sense of community amongst the neighbors. I know a lot of them, especially my family, started looking up recipes and shared them with our neighbors who don't usually eat the green stuff. (Amelia, personal communication, October 8, 2021)

Interview transcripts revealed that several patrons bonded over cooking garden produce. These instances promoted interpersonal skills by providing opportunities to develop relationships and share ideas.



**6** The Hesed House community garden impacted intrapersonal growth by offering opportunities for personal transformation.

Several participants explained feeling personally transformed as a result of volunteering at the Hesed House community garden. We defined intrapersonal skills as self-awareness, self-reliance, motivation, and the ability to handle personal conflict such as stress. Analysis of interview transcripts revealed that volunteering in the Hesed House garden allowed participants to feel that they were serving their community while becoming stronger emotionally. Some volunteers expressed that their work in the garden allowed them to experience feelings and actions that were once out of their reach. One gardener noted that her volunteer work prompted her to be a better version of herself. We documented many volunteers admitted to choosing to

garden simply for the sake of gardening. This realization among volunteers was important to the director of Hesed House, Stephanie, as she believed volunteering in the garden could drive self-actualization. “In terms of Maslow's Hierarchy of Needs, much of our community never gets to self-actualization, like that's not even an option. It can be an option, and it should be an option for every community member” (Stephanie, personal communication, June 30, 2021).

Participants also described volunteering as stress relief. Interviewees explained that working with others gave them a sense of escape from their problems and allowed them to focus on the present. One long-time volunteer, Gina, described participating in the garden as hard and hot; however, she noted that through her volunteer work, she experienced peace. “[The garden] brings me peace. The work itself is good, even though it's hard sometimes and hot. That doesn't make it less good. And you get to see the result of your labor” (Gina, personal communication, October 20, 2021).

Several participants also described how working in the garden helped them express their emotions through poetry. Gina, a volunteer, spoke about how the garden inspired her to write poetry, a pastime she had not exercised in 30 years. Gina explained that the garden helped her to be more reflective and open to new experiences. She noted that her favorite topic to write about was the garden because it gave her a sense of peace. “I write poetry about this garden. I'm not lying to you. I haven't written poetry in like 30 years, y'all. I'm not kidding you. I'm writing it now” (Gina, personal communication, October 20, 2021). Specifically, she loved to write poems about okra. She also took pictures of the okra to accompany her poems. Gina's love for poetry inspired others to write poetry about the garden as well. With enthusiasm, Gina shared her poetry and photography with us (Figure 13).



**Figure 13***A Poem and Picture About Okra**“Ode to Okra”**by Gina**The other day while in the garden I was amazed.**It wasn't the bright colored flowers bobbing happily in the breeze that caught my attention,  
though lovely they were.**The flower that held my attention was buttery yellow with a deep crimson center. The leaves  
were broad and flat, like hands that reached out into the sun.**As I continued to look at the leaf. I saw its vascular structures. They were dark red in the leaf's  
center then spreading down out to the tip, each lovely red line a lifeline. I wasn't prepared for  
this sight. It was so beautiful! (Thank you, God, that I had eyes to see).**Then nestled in close to the stem with a little furry crown, bunched together and growing,  
pointing up and out towards the sun; magenta okra stood straight and regal like a queen.**There she stood presiding over the corn and over the flowers.**Come back and be amazed, she seemed to say. Open your eyes and see.*



**Project Question: What is the impact of the Hesed House community garden?**

**Sub-Question 4: What is the impact of Hesed House community gardens on health and wellness?**

7

Participants perceived that the Hesed House community garden positively impacted their mental health.

The Hesed House community garden presented opportunities to foster positive mental health. Opportunities to volunteer in the garden, take classes, or participate in garden activities appeared to influence the perceived mental health of several volunteers. One interviewee said she suffered from postpartum anxiety but working in the gardens gave her an opportunity to find joy. We also interviewed a caregiver who described that after medical appointments, she parked

next to the garden so her ward could find peace in the beauty of the garden's flowers. She shared that this activity temporarily relieved the ward of the thought of her health problems and aided in relieving stress. Another patron described walking through the garden positively impacted her mood. Multiple volunteers described the process of gardening making them happier. Some claimed the dirt acted like an antidepressant and others stated working hard in the garden helped them to forget their problems. "I'm reaping benefits everywhere. There are some kind of antidepressants in the soil" (Gina, personal communication, October 20, 2021). "I had postpartum anxiety after my first child. Getting out and being able to do something hands-on and have tangible results have been really good for my mental health" (Danielle, personal communication, October 8, 2021). These participants shared stories about the positive impact visiting the garden had on their mental health.



### 8 Participants perceived that the Hesed House community garden positively impacted their physical health.

Activities at the Hesed House community garden such as volunteering, eating fresh produce, and taking classes seemed to foster physical health benefits as perceived by participants. Although medical professionals did not substantiate the improved health claims, garden participants were adamant that they felt healthier. One volunteer claimed her blood pressure went down after being in the garden. Another interviewee, Gina, a long-time volunteer, stated that working in the garden helped with her heart health. "I think there's definitely a lowering of blood pressure and stress. I mean, I don't track it, but I feel it" (Gina, personal communication, October 20, 2021).

In addition, garden patrons we interviewed discussed the health benefits of eating fresh produce. Many noted that their families ate healthier after volunteering in the garden, and often

shared healthy recipes with friends. Rebecca, a garden volunteer, expressed that the garden encouraged her to eat healthier. “The garden just makes you want to eat healthier. It's easily accessible” (Rebecca, personal communication, October 26, 2021). Stephanie, the Hesed House director, shared how she created class curriculum.

Gina and I are writing the curriculum for a course called Healthy Habits. It's going to be geared towards addressing social determinants of health: hypertension, diabetes, and obesity - those kinds of issues. There are parts of the course that talk about the gardens, local produce, why that matters, and healthy ways to prepare it.” (Stephanie, personal communication, March 7, 2022)

In Finding 4 above, we noted the ways that Hesed House programming created opportunities for community connections. Some of that same purposeful programming fostered physical health amongst the participants. Although the most popular classes were yoga, Hesed House worked to create curricula that promoted other healthy habits. Thus far, approximately 100 participants attended Hesed House classes. Participants shared that the classes helped them learn how to be healthy and provided options to make wellness a priority.

9

Participants perceived that the Hesed House community garden positively impacted their spiritual health.

Participants described the Hesed House community garden as offering peace of mind to patrons, especially during the Covid-19 pandemic. The garden served as a spiritual connection to the land and offered a sense of peace for individuals struggling with the isolation caused by the pandemic. Several interviewees stated that thinking about the garden changed their focus away from Covid-19 infection numbers. Some also expressed that they worried about the health of other volunteers, but visiting the garden helped them to remember their joy. One volunteer

noted that the garden was a safe place to socially distance and made it easier for people to visit and connect spiritually. “The garden creates a community gathering space that is a safe space. It's a space where everyone's welcome, where people can come together especially during times like Covid-19. It's a place for healing growth, communication, and connection” (Krystal, personal communication, February 10, 2022).

During much of 2020 and 2021, people wandered through the garden after funerals or after working with Covid-19 patients in order to reflect and bond with nature. One interviewee remarked that the garden was a spiritual anchor for the community during the challenges of the pandemic. “It's kind of like my own decompression chamber if you will. I'm an ER nurse, and it's been very challenging this past year and a half. I love my garden time. I look forward to it” (Gina, personal communication, October 20, 2021). Some interviewee perceptions were that the flowers and growing cycle of the garden provided solace for others and represented life.

The Hesed House community garden offered classes to teach participants how to be more mindful and spiritual when gardening. Interviewees expressed that mindful gardening was an important part of their experience in the Hesed House community garden. Thus, some instruction centered around understanding the earth and being present while tending to plants and vegetables. The goal for the mindful gardening class was to intentionally connect with the environment and one's spirit while gardening. While Hesed House hasn't collected specific attendance numbers for mindful gardening classes, our interpretation of interview transcripts implied the classes were beneficial to participants. Stephanie, the Hesed House director, talked about teaching the idea of mindfulness. “We have a three-week gardening series on Saturday mornings right now called mindful gardening and it's helping people understand how to relate to

their environment. What is somatic mindfulness, and what does that look like in a garden?” (Stephanie, personal communication, June 30, 2021).

One participant compared working in the garden to her happy place. Another student said the dirt in the community garden gave her a spiritual connection to the land. An avid volunteer, Rebecca, referenced the garden as an opportunity to be present.

Everybody seems to just enjoy it - like [the garden] is our happy place. That is where you go in to take a break from society, reality, your world. You can just go there and know that okay, this is all I need to worry about in this moment. (Rebecca, personal communication, October 26, 2021)

In all, mindful gardening education seemed to not only help the garden blossom but promoted spiritual peace as well.

### **Recommendations**

After reviewing the literature and Hesed House documents, analyzing interview transcripts, and documenting our findings, we developed recommendations for consideration by the Hesed House staff and board of directors. We hope these recommendations influence the impact the Hesed House community garden has on the people of Wharton.

**1** If Hesed House continues to teach the fundamentals of gardening through classes and mentorship programs, it will impact food security and sustainability, community health and wellness, and growth of patrons’ interpersonal skills.

In Finding 1, we illustrated that Hesed House addressed food security and sustainability by regularly offering classes to teach participants the art of gardening. In addition to classes, we found that mentorship programs also impacted sustainability and community relations by teaching participants how to maintain a garden. In Finding 4, we discovered that activities

offered at Hesed House afforded individuals opportunities to learn from each other and form bonds while learning sustainable gardening practices. Whether classes were taught by master gardeners, Hesed House staff, or volunteers, learning occurred. Lastly, Finding 5 illuminated that interpersonal skills were positively impacted through the relationship-building opportunities offered through Hesed House programs. This impact was evident by the class topics, volunteer activities, involvement of all age groups, and focus on families in the Hesed House community garden.

The literature on the impact of community gardens reinforced that leadership should continually organize events to share ideas and sustain the garden (Koenst, van Melik, & Verheul, 2018). Phillips (2003) highlighted that food security was improved when participants learned the skills needed to properly maintain community gardens. Community gardens may prosper by teaching these skills through classes and mentorship opportunities (Rogers et al., 2020). In addition, learning opportunities in community gardens fostered confidence in novice gardeners (Kowalski & Barrett, 2018). Overall, offering opportunities to learn how to garden can augment food security and sustainability (Rogers et al., 2020).

Based on our findings and a review of the relevant literature, we recommend that Hesed House continue to offer learning opportunities for volunteers through classes and mentorships. Garden-focused classes should occur a minimum of once per month and mentorships should be offered year-round to assist Wharton residents in maintaining the community garden and home gardens. Hesed House should build upon the established curriculum to increase the knowledge base of class participants. Although learning is often spontaneous in the garden, Hesed House should maintain a regular schedule of classes. Curriculum could include preparing a garden, cultivating dirt and compost, transplanting seedlings, planting for the seasons, plants that attract

pollinators, and other garden-specific topics. Hesed House should recruit teachers competent in multiple gardening topics. In addition, we suggest that Hesed House leadership consider offering alternative learning modalities such as Zoom and Facebook Live in order to reach a broader audience.

2

If Hesed House adds additional community gardens in city-owned vacant spaces of Wharton, it will increase opportunities to address food security, community relationships, and participant health and wellness.

Finding 1 highlighted how the Hesed House community garden positively addressed food security by teaching volunteers how to grow, maintain, and appreciate a garden. Finding 3 revealed the distribution of food by Hesed House impacted the food security of recipients. Findings 2, 4, and 5 demonstrated how the garden fosters relationships and affords individuals opportunities to take ownership in their community development. Lastly, Findings 6, 8, and 9 reflected the positive impact from the Hesed House garden on participant health and wellness.

Community garden literature we reviewed reinforced the benefits from gardens to patrons. For example, Bussell, Bliesner, and Pezzoli (2017) found that community gardens increase neighborhoods' social and economic value. Paul, Paul, and Anderson (2019) expressed that food grown locally impacts the utilization and stability of food sources. Accordingly, community gardeners also reported fewer days worried about running out of food (Alaimo et al., 2016). Lambert et al. (2021) illustrated how community gardens may promote physical health through the distribution of produce. Alaimo et al. (2016) explained that community gardeners admit to eating more fresh fruits and vegetables when they work at a community garden.

We recommend Hesed House consider building additional community gardens in the city-owned vacant spaces in Wharton. Our findings suggested that the existing community garden offered a place to build community relationships, learn new skills such as gardening, and



improve the perception of health in its patrons. Expanding the community garden program could provide these benefits to other Wharton residents in other areas of town. The result of adding more community gardens could enhance Hesed House's social initiatives and community reach. Hesed House could start this expansion in the open spaces around Dinosaur Park. Another option could include planting additional gardens in backyards, schools, churches, or on city-owned vacant lots. When expanding to build additional gardens, Hesed House should appoint a leader to drive the process. Securing volunteers and community partnerships to support the building of new gardens is also recommended. In addition, Hesed House should establish training programs to onboard new participants to ensure consistency in how the gardens are managed and maintained.

3

If Hesed House develops a sustainable plan for distributing produce from the garden, it will impact food security and sustainability and participant health and wellness by increasing access to fresh fruits and vegetables.

Finding 3 highlighted Hesed House's ability to distribute produce to homebound patrons during the Covid-19 pandemic. As a result, Hesed House developed protocols for food distribution that intentionally targeted those in need. This recommendation concerning distribution was reinforced in Findings 2, 4, and 5 because produce distribution may require strong community relationships and effective interpersonal skills. Lastly, the recommendation connects to Finding 8 in that access to fresh fruits and vegetables can improve the physical health of community residents.

The literature showed that receiving food from community gardens was beneficial to community sustainability. Block, Chavez, and Allen (2003) found that many grocery store chains do not maintain facilities in or near low-income areas, creating a disparity in access to low-cost produce. According to Morgan (2015), community gardens provided produce when

food may be scarce. Armstrong's (2000) study demonstrated that community gardens provided food to low-income neighbors struggling with food insecurity. In addition, Corrigan (2011) illustrated how community gardens counter food deserts by narrowing the gap in the distribution process. Birky and Strom (2013) noted that in times of surplus, community gardens may also benefit from selling produce. Vegetables produced in community gardens also offer health benefits to patrons. Ayalon (2008) cited that eating healthy food such as fresh produce may reduce blood pressure, obesity, and blood sugar. Lampert et al. (2021) also suggested that community gardens promote health.

Based on our findings and literature focused on the food security impact of community gardens, we recommend that Hesed House develop a sustainable plan to deliver produce from the garden to patrons in need. Although Hesed House excelled in their produce delivery strategy during the Covid-19 pandemic, policies and procedures were not formalized. As the volume of produce grown in community gardens increases, Hesed House should develop protocols to distribute fresh herbs, fruits, and vegetables to homebound patrons, patrons in crisis, people walking through the park, neighborhood families, and garden volunteers. Considering the over 500 pounds of produce grown in the community garden in 2020, Hesed House may grow a surplus in the future. In these instances of surplus produce, selling it at the local farmers' market to continue building community ties and amplify the impact of the garden program may be beneficial. The overall initiative will address food security, recipient health and wellness, and build community relationships from planned produce distribution.

4

If Hesed House partners with local organizations to maintain additional gardens in Wharton, it will foster community relationships and interpersonal skills, address food security and sustainability, and impact participant health and wellness.

Finding 2 highlighted the community relationships needed to sustain the gardens. The Hesed House relationship with the local feed store was the most impactful relationship for sustaining the garden. Hesed House not only received seeds and discounts on supplies from the store, but they also marketed for volunteers and advertised garden activities at the store. One of the most notable events leading to Finding 2 was the seed swap promoted by the partnership between Hesed House and the feed store. Findings 4 and 5 were relevant to our recommendation in that maintaining community ties requires building relationships as well as interpersonal skills.

The literature about community garden impact on relationships reinforced a solid connection to our recommendation. In a study of 63 community gardens in upstate New York, Armstrong (2000) found that successful community garden programs affiliate with partner organizations such as shelters, youth organizations, housing projects, and commercial businesses. Koest, van Melik, and Verheul (2018) discussed that neighborhood partnerships are essential to the growth of community gardens. In addition, Bussell, Bliesner, and Pezzoli (2017) showed that partnerships fostered around community gardens build community connections. Accordingly, community events such as sharing seeds and plants bolstered communal relationships (Cameron, Manhood, and Pomfrett, 2010).

Based on our findings and relevant literature, we recommend that the Hesed House garden program partner with multiple commercial businesses and community organizations to positively impact community relationships. Using the model of the relationship with the feed store, Hesed House should partner with other neighborhood organizations that will allow them to advertise for volunteers, classes, or garden activities. Wharton area churches, after school

programs, and local businesses may prove to be fruitful relationships to assist in maintaining additional gardens. Attending city or school board meetings may also generate opportunities to develop new partnerships and additional support to build new gardens. Additionally, organizations such as the Boy Scouts, Girl Scouts, church groups, or drug and alcohol recovery centers may result in new relationships to assist with the gardens. Hesed House may benefit from creating an informational package to introduce the garden to new potential partners. Lastly, Hesed House should establish milestones for building new gardens and procedures to maintain partner relationships over time.



If Hesed House continues to encourage participation in garden-inspired events and community relationship-building through social media, it could generate community relationships, foster interpersonal skills, and sustainability of the garden.

Findings 2, 4, and 5 play a primary role in showing the benefit of building community relationships and offering opportunities for learning about the garden. Specifically, these findings showed how Hesed House established community partnerships. In addition, the findings demonstrated that Hesed House was adept at bringing individuals together through classes, activities, and fellowship. During the Covid-19 pandemic, Hesed House offered garden-related activities through online platforms. Prior to the pandemic, Hesed House had limited social media presence. In May 2019, the organization had zero followers on Facebook and Instagram. In May 2022, social media following increased to 872 unique users on Facebook and 365 followers on Instagram. These outlets generated increased interpersonal relationships, built communal bonds, and connected hundreds of people.

Literature evaluating the impact of social media on community gardens or community initiatives was difficult to find. Web scraping the Hesed House digital footprint provided concrete evidence of social media benefits as a tool to bring communities together. For example,

Meta data revealed that 30% of Instagram followers and 55% of Facebook followers of Hesed House were from the city of Wharton. Data also revealed the number of Hesed House Instagram followers doubled over the past year, implying that social media platforms effectively reach audiences. In addition, Hesed House community garden posts received tens to hundreds of “likes”, indicating that followers are pleased with the information Hesed House is disseminating. An illustration of this phenomenon is the record number of “likes” on Hesed House’s alligator carving post.

The findings associated with social media scraping reveal that leveraging social media is a promising method to attract Hesed House volunteers and participants to community garden activities. Therefore, we recommend that Hesed House encourage participation in garden and community relationship-building events through social media. Assigning a point person to maintain social media accounts is vital to implement this recommendation. In this manner, posts can be seamless and style can be consistent. Developing protocols on responding to followers could be helpful as well. We advise monitoring posts and reactions to recognize posts that generate significant interest so Hesed House can gain a deeper understanding of the social media audience preferences. Lastly, we recommend Hesed House connect with business partners such as the feed store through online platforms.

Social media platforms change their algorithms over time but posting regularly ensures Hesed House content appears in news feeds (Barnhart, 2021). The appearance of Hesed House posts in various organizations’ news feeds should attract followers to the Hesed House social media accounts, generating additional interest in the Wharton Grows program.

Hesed House should also invest in targeted advertising on social media platforms. Since people log in to Facebook and Instagram daily, Hesed House paid advertisements would show up

as people scroll through their feeds. This action could potentially increase interest in classes, volunteering, and partnering opportunities. Google and Meta enable organizations to advertise globally, stay local, or target specific markets. We recommend Hesed House consider targeted ads in Houston, Austin, and San Antonio markets.



If Hesed House partners with a medical professional to track health and wellness indicators of patrons, Hesed House can accurately assess participant health and wellness, measures that may offer evidence of impact for future grants and direction for ongoing improvement.

Findings 7, 8, and 9 revealed the impact of the Hesed House community garden on the mental, physical, and spiritual health of garden patrons. In Finding 7, one garden volunteer expressed that she felt relief from emotional stress through her work in the garden. In Finding 8, another volunteer declared that she felt her blood pressure go down when in the community garden. Lastly, Finding 9 highlighted that the garden offered spiritual peace to many participants. Overall, the findings illustrated a positive impact on perceived health and wellness.

As detailed in our findings, improved perceived health from the Hesed House community garden were based on personal experiences and not the opinion of medical professionals. Nevertheless, the literature expressed the promising health benefits of community gardens. For example, Gregis et al. (2021) reviewed thousands of articles and found that community gardens promoted physical, social, and mental health while reducing participants' BMI. Pitt (2014) also explained that community gardens benefited emotional health through physical activity resulting in a sense of ownership in their work in the garden. A 2012 study by Weltin and Levin (2012) demonstrated that working in community gardens helped manage diabetes. Ayalon (2008) showed that community gardens promoted physical health when participants physically worked

in the garden and consumed nutritious foods. Lastly, Mmako et al. (2019) cited that volunteers wanted to work in community gardens to increase their physical and mental well-being.

Considering the findings and the literature, we recommend Hesed House partner with a medical professional to help patrons track physical health and wellness indicators. Hesed House and the city of Wharton could consider offering health monitoring devices such as blood pressure cuffs and scales for use at Hesed House to help inform patrons of their overall health. One of the interviewees and Hesed House supporters on the board of the Gulf Coast Medical Foundation was actively looking for ways to expand the Wharton Grows program to combat food insecurity. Partnering with the Gulf Coast Medical Foundation and a local medical provider to offer health monitoring to community garden patrons could increase Hesed House's impact on Wharton residents' health and wellness. This recommendation builds off the findings that the Hesed House garden positively impacted its patrons' and volunteers' perceived mental, physical, and spiritual health.



If Hesed House leadership tracks the number of attendees at classes and events, they can identify and expand the most impactful programming for improving food security and community relationships among the residents of Wharton.

Finding 1 highlighted the impact of the community garden on food security. Finding 4 documented the impact the Hesed House activities had on community relationships. By tracking the number of participants at individual events and classes offered at or by Hesed House, the leadership can tailor future programming to maximize impact to the community. After reflecting on participation numbers, Hesed House leadership can identify the topics of highest interest, times of the year with high or low participation, and adjust the events and classes accordingly.

### **Limitations**

Hesed House was a new 501(c)(3) organization in 2019 and the community garden effort was developed as a pilot project. The garden was a small project compared with the other initiatives Hesed House focused on in 2021 and 2022 such as renovating and expanding to other buildings around Dinosaur Park. As a result of the limited resources for the garden, we experienced difficulty gathering substantiating evidence of the garden's impact. We were not able to find much literature describing strategies to scale up community gardens, so we did not include that scope in our findings and merely recommended that the community garden program be expanded. Without access to participant and volunteer health records, we were unable to assess changes in health after interacting with the community garden and garden-focused classes. Without attendance records, we were unable to pinpoint the most impactful programming offered by Hesed House.

### **Conclusion**

The goal of this project aimed to provide concrete evidence to confirm the impact of the Hesed House community garden on Wharton residents and identify how Hesed House might expand the community garden to further improve community health and wellness. Our inquiry was guided by the overarching question, what is the impact of the Hesed House community garden? We enhanced this question with four sub-questions regarding the garden's impact on food security and sustainability, community relationships, intra- and interpersonal growth, and health and wellness. To answer these questions, we focused on a review of empirical literature, collected data on Hesed House, conducted qualitative interviews, and examined social media.

Our findings illustrated that the Hesed House community garden distinctly impacted the community of Wharton. In particular, we found that the community garden positively addressed



food security and sustainability by providing resources to maintain the garden, teaching gardening skills, and distributing vegetables. The community garden fostered community relationships by connecting people and offering opportunities to learn from each other. Additionally, the community garden increased intra- and interpersonal skills by providing opportunities for community-building and individual reflection. Lastly, patrons and volunteers perceived positive mental, physical, and spiritual benefits from their interactions with the Hesed House garden.

Although we generated several findings, we encountered limitations during the course of our project. First, we could not obtain medical evidence to validate participants' perceived health and wellness benefits from participating in community garden activities. Additionally, in-person accessibility for interviews was a challenge because team members lived in geographically separated areas from each other and Hesed House and travel and in-person meetings were difficult due to the Covid-19 pandemic. This distance affected our inquiry because we were directed who to interview and did not have the option to attend local Wharton functions to meet residents and participants organically.

Further inquiry into community gardens in rural locations could benefit future projects with similar focus. Impact studies facilitated by a medical professional could provide concrete data on the influence of community gardens on the health and wellness of participants versus participant-perceived outcomes. In addition, investigation into management models of community gardens and community-sponsored family gardens could validate the case for community gardening. As a result, successful community gardens may be replicated.

Overall, we are confident that Hesed House leadership can confirm their impact on Wharton residents through their sponsorship of the community garden and associated garden

events. We hope our recommendations can aid them in pursuing supplemental community resources for their patrons. Specifically, we would like to see increased funding and opportunities to further develop the Hesed House community reach by leveraging the community garden. In addition, we hope that Hesed House will use our project findings and recommendations to validate the effectiveness of the garden program. We are optimistic that our project will serve as a resource for Hesed House to use in obtaining funding for expansion.

## References

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## Appendix A

### Focus Questions

1. What is the impact/outcome of the Hesed House community garden?
2. How many community members does the current Hesed House community garden feed?
3. What programs are connected with the garden project? (kids/adults)
4. How does the Hesed House garden bring the community together?
5. Does/how does the distribution of food organize and unite the community?
6. Does/How does the garden foster life- and employable skills that are put back into the community?
7. Does/How does the HH community garden promote mental and physical health in Wharton?
8. In what way are youth impacted by HH community gardens?

## Appendix B

### Qualitative Interview Questions

#### **For community garden volunteers and patrons:**

1. How have you benefited from the community garden? Why do you go to the community garden?
2. Have you noticed any differences in your life/health/mental state as a result of spending time in the garden? If so, please describe them.
3. Have you noticed any differences in your life/health/mental state as a result of eating produce from the garden? If so, please describe them.
4. How do you envision using and interacting with the community garden in the future?
5. How are community members involved in the garden?
6. In what ways does the distribution of produce create bonds within the community?

#### **For Hesed House staff or community garden volunteers:**

1. What is the growing capacity of the garden?
2. Describe the demographics and number of participants and volunteers in the garden program. What are the demographics and number of participants at community garden events?
3. Describe the tools you use to measure the output of the garden.
4. What methods have been most effective in documenting community participation in the garden?
5. How is food distributed from the garden?
6. How many people received produce from the garden in 2020? 2021?
7. Describe the community involvement process in the garden from planting to distribution.

8. Describe any classes in/about the garden related to employable skills.
9. What is the process of teaching and learning in/about the garden?
10. How many community members have received jobs based on the skills they learned in the garden?
11. How do you document what skills are necessary for volunteers and how do you instruct community members in the process of working in the garden?
12. How do you recruit learners and teachers to the garden?
13. How does Hesed House document the health benefits of the garden?
14. What types of wellness activities/classes are held in the garden? (a list with topic and dates would be helpful if available)

**For Hesed House staff:**

1. How does Hesed House partner with other organizations to promote the garden?
2. Who are the Wharton Grows partner organizations?
3. How does the garden program target different age groups and areas of interest?
4. Describe any community connections that have developed as a result of the garden.
5. How does Hesed House recruit new community members to volunteer and/or benefit from the garden?
6. How does Hesed House maintain community relationships with other nonprofit community groups in support of the garden?
7. Describe how you use social media to foster community participation in the garden.
8. What types of classes and events seem to garner the most participation from the community?
9. How is the garden used when events or classes are not scheduled in it?

10. How do you advertise when produce is ready for distribution? How do you advertise if you need volunteers to help with gardening activities? What gardening activities are advertised?
11. What part does social media play in communicating about the garden with the community?
12. How do you document the distribution process within Hesed House?
13. How many community members and volunteers are involved with the distribution of produce?
14. Describe how Hesed House promotes garden-sponsored health activities.
15. Describe youth involvement in the garden, including age groups.
16. How does Hesed House recruit youth participation in the garden?
17. Describe any activities/classes in the garden targeting youth.
18. How do youth acquire produce from the garden?
19. How does Hesed House maintain relationships with youth organizations such as schools?

**Appendix C**

**Deductive Codebook**

Conceptual Frame Main Category	Conceptual Frame Sub-Category	Potentially Relevant Code Words
Intra- and Interpersonal Growth	Community Involvement	volunteer
		mentorship
		trust
	Self-Efficacy	walk to grocery store
		gain new skills
		belong
		motivation
		learn/learning
		personal growth
		poetry
		increased spirituality
		empowerment
		awakening
can't drive		
Food Security and Sustainability	Environmentally Aware and engaged in community	food desert
		grow
		flooding
		levee
		crop
		growing cycle
	Self-supporting community with ownership in	[fresh] produce

	production	plant	
		gardeners	
		food on porch	
		seeds	
	Offer training and skills to promote community health	herbs	
		garden	
		vegetable	
		growing	
		gardening	
		teach/teaching	
		training	
	Health and Wellness	Emotional	stress
			COVID
journey			
relaxation			
focus			
support			
peace			
Physical		healing	
		obesity	
		health	
		blood sugar	
		diabetes	
		yoga	
		plant	

		harvest
		growth
		recreation
		blood pressure
		strength
		activity
	Spiritual	soul
		funeral
		connect/connection
		dirt
	animals	
Community Relationships	Building of Community	safe/safety
		welcome
		leadership skills
		economics
		increase property value
		partner
	Social interactions	cultural/ culture
		social capital
		festivals
		celebrations
		yoga
		conversation
		park
		levee



		class
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